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The writer has often met in the layman's mind, a tendency to read into the behavior of lower animals the impulses of the human brain. Further still, some would impose upon the lower animal the restrictions of the Mosaic Law. In case the human law have no foundation in biologic law, is there any reason why it should be imposed upon the lower animal? On the other hand, let us examine some of the laws of human ethics and see if they are merely different ways of stating laws of nature. I have already used in the preceding pages of this now too long article the words "reprehensible", "recalcitrant", and "vagrant", but is it proper to do so? I maintain that the ethics which demands that the marital tie shall last "till death do us part" should not be imposed in those words upon the bird but that the same law, recast in terms of biology, is applicable to, and is observed by, a multitude of bird species. Let that law read thus: "The male and female shall cooperate during the period of the young's dependency upon parental care." Will it not work out for humans in the majority of cases, almost as well as does the ritual?

Take two biologic humans, uninfluenced by the artificial conditions of our later civilization. They establish the marital tie at the age of twenty years. The first offspring is born within the year and becomes independent at the age of eighteen or twenty. In the meantime there have appeared, at intervals of two years, other offspring to the number of ten. Is this an exaggeration for the biologic human family? By the time the last young is independent, the parents have lived in active cooperation for the period of forty years, and have reached the age of sixty. They had best not attempt any readjustment at that age, even though they have no grandchildren on their hands. The ethical law is really a biologic law and we didn't know it.

Apply the same restriction to the bird and you have a cooperative period not extending, as a rule, beyond the spring and summer of each single year, and sometimes for even less time than that. There is no biologic demand for a greater prolongation of the marital tie. Certainly there is nothing in the birds' code of ethics. Why hold to a human lettering of the law?

*State Normal School, Los Angeles, California, February 1, 1919.*

## THE SUMMER BIRDS OF HAZELTON, BRITISH COLUMBIA\*

By P. A. TAVERNER

WITH ONE PHOTO

**H**AZELTON, BRITISH COLUMBIA, is at the head of the Skeena River, at the forks where the stream is formed by the junction of the Bulkley and Babine rivers. It is the most northern point reached by the Grand Trunk Pacific Railroad, hence, with the exception of points on the new Hudson Bay Railroad, it is the most northern station reached by any of the main railway systems in America. In latitude 55° 20', it is on line with the mouth of James Bay and slightly north of Hamilton Inlet on the Labrador coast. Situated as it is, at the head of navigation on the Skeena River, the supply route

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of all the northern parts of British Columbia, and on the line of the old Yukon telegraph line, Hazelton formerly enjoyed somewhat greater commercial importance than it does now, as but one of many stations on a transcontinental railroad system. It still remains, however, an important distribution center for the country to the north. Though geographically far north and in a latitude that in the east would exhibit arctic characters, the region about Hazelton is purely Canadian zone in its zoological and botanical aspects, though close to the Hudsonian boundary. It is situated at the inner edge of the coast range,

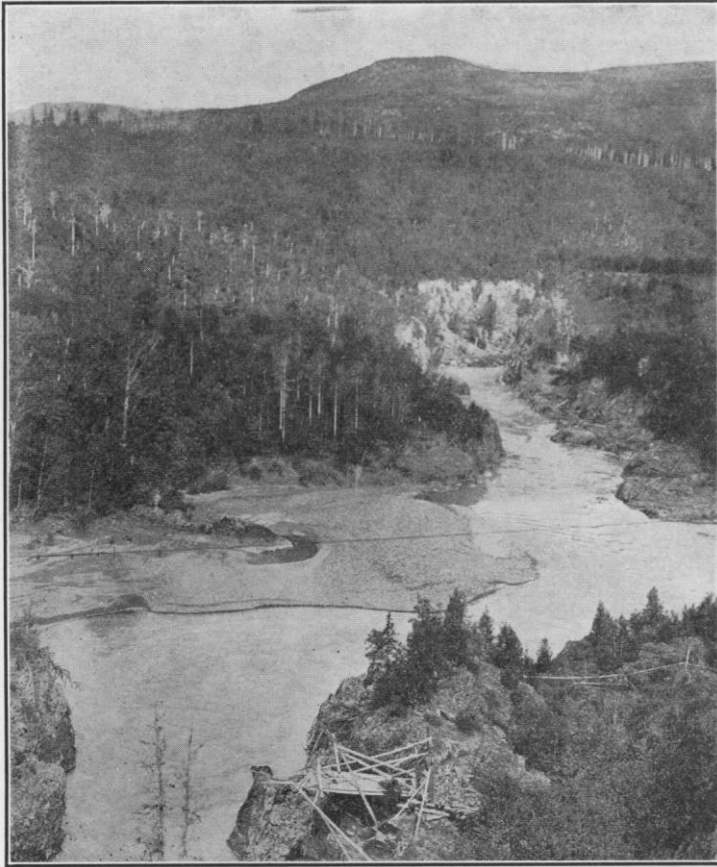


Fig. 19. THE BULKLEY RIVER, FROM THE SUSPENSION BRIDGE AT NEW HAZELTON, BRITISH COLUMBIA.

the lower altitude at about 800 feet. The surroundings are mountainous, Roche de Brulé, the highest mountain in the vicinity, rising 9000 feet above the sea level, while lesser elevations above the valley are numerous. The valleys are clothed with a dense growth of poplar, cottonwood and hemlock, with numerous Douglas firs and occasional particularly fine examples of birch. The mountain sides are mostly covered with Douglas fir, balsam and spruce. The upper limit of timber comes at about 5000 feet elevation. The whole country has suffered severely from fire, and, as a result, much of it is almost impassable with tangled second growth and fallen timber, making progress except along

trails or roadways arduous and slow. Fortunately the roads are exceptionally fine, or at least were during our season there; pack trails lead everywhere, giving access to all parts adjoining. There is little farming activity and most of the few clearings are devoted to the grazing of a few cattle and bunches of pack horses. The topography is rough and broken. At New Hazelton, four miles above the original settlement at the forks, the Bulkley River breaks through a ridge by way of a narrow canyon over three hundred feet deep. Across this gorge the wagon road is carried on a suspension bridge, one of the highest structures of its kind in the world. A few hundred yards up stream and at a little lower elevation are the remains of a unique bridge that fell this summer, built years ago by the original natives from wire from the abandoned transcontinental telegraph line.

This locality was collected in by two parties from the Canadian Geological Survey during the summer of 1917. The first, composed of J. M. Macoun and Wm. Spreadborough, was in the field from June 20 to July 21. They camped near (Old) Hazelton, on the shores of the Skeena River, and worked most of the mountains and valleys adjoining. The present writer joined a geological party for a week (August 23 to 29) at a point some two miles west of New Hazelton near the bridge across the Bulkley. Most of his work was done in the vicinity of the camp, and higher altitudes were scarcely visited. Birds were very scarce and retiring during this midsummer week and the work is worth reporting upon only as supplementary to that performed by Macoun and Spreadborough earlier in the season.

1. *Gavia immer*. Common Loon. A Loon was seen on the Skeena, August 22, by the writer, as the train he was on approached Hazelton. The species was noted almost daily by Spreadborough in June and July.
2. *Mergus americanus*. American Merganser. Not common at Hazelton. Spreadborough reports an adult and four young.
3. *Charitonetta albeola*. Bufflehead. An adult with four young seen by Spreadborough on a small lake near Hazelton, July 18.
4. *Actitis macularia*. Spotted Sandpiper. Reported by Spreadborough as a common breeder along the river; not seen about New Hazelton.
5. *Bonasa umbellus*. Ruffed Grouse. Several coveys and single birds seen at various times by both Spreadborough and myself. No specimens were taken, but *umbelloides* is the form to be expected here.
6. *Accipiter velox*. Sharp-shinned Hawk. Three seen by Spreadborough, and single birds observed by the writer nearly every day.
7. *Buteo swainsoni*. Swainson Hawk. One doubtfully recorded by Spreadborough, July 18.
8. *Haliaeetus leucocephalus*. Bald Eagle. One taken June 29; several noted in July.
9. *Falco sparverius*. Sparrow Hawk. Spreadborough found the Sparrow Hawk fairly common about Hazelton, and the writer saw several birds near New Hazelton. Two females taken July 2 and 9. I refer these to the type form, *sparverius*.
11. *Otus asio*. Screech Owl. I thought I heard the distant quavers and trills of this species a couple of evenings, but too faintly to be absolutely certain of the identification.
12. *Bubo virginianus*. Great Horned Owl. One seen by Spreadborough July 20 or 21.
13. *Ceryle alcyon*. Belted Kingfisher. Several seen along the river at Hazelton and one seen by the writer on the Bulkley.
14. *Dryobates villosus*. Hairy Woodpecker. Reported as common by Spreadborough, and one taken by the writer August 26. Three specimens taken by Spreadborough. Two of these birds are of slightly questionable identity. They are quite smoky below, but whether this is due to contact with burnt timber or is a natural coloration is

a matter of some doubt. If the latter they must be regarded as showing a tendency toward *harrisi*. Otherwise all are plainly referable to *monticola*.

15. *Dryobates pubescens*. Downy Woodpecker. Spreadborough reports seeing what he took to be Gairdner Woodpecker (*Dryobates pubescens gairdneri*), July 18.

16. *Picoides arcticus*. Arctic Three-toed Woodpecker. Fairly common, and, similarly to the next species, found at the edges of burnt timber. Four specimens taken by Spreadborough, July 11.

17. *Picoides americanus*. American Three-toed Woodpecker. Spreadborough reports it as fairly common at Hazelton along the borders of burnt timber, where it appeared to be feeding on larvae of the spruce-tree borer. Three specimens taken July 5 and 6. Being without comparable eastern material I include them under *fasciatus* upon geographical probability, though I can see no sign of longitudinal striping on the back.

18. *Sphyrapicus ruber*. Red-breasted Sapsucker. Three birds seen by the writer, and two juveniles taken. Spreadborough reports them as common at Hazelton, he taking five specimens there. The adult males of this series are considerably brighter and with the back less spotted than our only California specimen, hence I refer all to *notkensis*.

19. *Phloeotomus pileatus*. Pileated Woodpecker. One seen by Spreadborough at Hazelton.

20. *Colaptes auratus*. Flicker. Fairly common. Four specimens taken by Spreadborough and two by the writer. The former are hybrids but nearer *auratus* than to *cafer*. The mixture of blood shows mostly in the intrusion of grayish in the throat, but the yellow of the shafts on some is deepened to dull orange. The two August birds from New Hazelton are by plumage pure *auratus*.

21. *Chordeiles virginianus*. Nighthawk. Several seen at Hazelton by Spreadborough. Again noted by the writer the evenings of August 25 and 26, but not thereafter.

22. *Cypseloides niger*. Black Swift. Nearly every bright afternoon a flock of Black Swifts was seen over our camp. Keeping in a loose company they drifted up and down the valley, coming and going until near evening. They usually kept high up, but occasionally one stooped low enough to be collected. Two were so obtained August 29.

23. *Chaetura vauxi*. Vaux Swift. Reported by Spreadborough as fairly common and breeding at Hazelton. Not recognized by the writer.

24. *Selasphorus rufus*. Rufous Hummingbird. Several seen by Spreadborough at Hazelton.

25. *Nuttallornis borealis*. Olive-sided Flycatcher. Three or four seen by Spreadborough at Hazelton, and one by the writer at New Hazelton. Two specimens taken, July 17 and in August.

26. *Myiochanes richardsoni*. Western Wood Pewee. Several heard by the writer August 24-27. Specimens taken June 28 and 30, July 16 and August 24.

27. *Empidonax hammondi*. Hammond Flycatcher. Spreadborough reports the Hammond Flycatcher as common. We have four adult specimens taken July 27 and 30, and two juveniles August 26 and 30. Both these latter are in the yellow-bellied phase and are so very similar to *flaviventris* as to be readily mistaken for that species. However, the throats are distinctly whitish, the green above grayish, and the bills and feet quite distinctive.

28. *Empidonax wrighti*. Wright Flycatcher. Though not mentioned in Spreadborough's notes he took specimens June 28 and July 10. Another was taken August 25.

29. *Cyanocitta stelleri*. Steller Jay. But one seen by the writer, a specimen taken August 25. Spreadborough does not mention it in his notes, but took two specimens June 28. The only constant character I can see in *annectens* is the presence of the gray spot over the eye. The other particulars usually given as diagnostic are unstable and unsatisfactory for individual identification. One of these specimens, a male taken June 28, has the spot, therefore I call it *annectens*. The other two are without it and I can only regard them as *stelleri*. These birds are slightly bluer on the back than the majority of specimens, but can be matched by individuals in either race. These two forms have broad fields of overlapping in their distribution, and in such localities their separation is purely arbitrary.

30. *Perisoreus canadensis*. Canada Jay. Six, seemingly a pair with young, noted by Spreadborough, July 18, and three collected. These birds are similar to those taken in Jasper Park on the east slope of the Rockies. They have extensive white fore-crowns, and blue-black hind crowns. *Fumifrons* is a slightly defined and unstable race, otherwise

they might be referred to that subspecies. As it is, I prefer to regard them provisionally as intergrades between *capitalis* and *canadensis*.

31. *Corvus corax*. Raven. A few seen by Spreadborough near Hazelton in July.

32. *Corvus brachyrhynchos* (sp?). Crow. Not common. Only a few seen by Spreadborough at Hazelton. None taken, so identity cannot be established. I assume that *C. caurinus* is a coast form and *C. b. hesperis* is a scarcely recognizable race.

33. *Euphagus cyanocephalus*. Brewer Blackbird. One pair with young noted by Spreadborough July 15. Two specimens taken.

34. *Loxia curvirostra*. American Crossbill. Several flocks observed by Spreadborough at Hazelton.

35. *Leucosticte tephrocotis*. Rosy Finch. Five seen by Spreadborough July 16 at an elevation of 6000 feet. Two taken are both *littoralis*.

36. *Spinus pinus*. Pine Siskin. Only one seen at a high altitude (5000 feet), by Spreadborough, July 16. Observed in flocks in August at New Hazelton in the lowlands several times. Specimens taken August 25.

37. *Zonotrichia leucophrys*. White-crowned Sparrow. Not common. Spreadborough reports but two seen. One specimen, taken July 15, is typical *gambeli*.

38. *Zonotrichia coronata*. Golden-crowned Sparrow. Not common. Only one seen, by Spreadborough.

39. *Spizella passerina*. Chipping Sparrow. Reported as common at Hazelton by Spreadborough, but not noted by the writer. One specimen, taken June 30, referred to *arizonae*.

40. *Junco hyemalis*. Slate-colored Junco. One specimen falls under this species, no. 10963, adult male (skull granulated), August 26. It is straight *hyemalis* except for a slight but obvious amount of red edgings on the back against which the gray of the hind neck cuts sharply. There is no rufus on the sides at all and I regard it as *hyemalis* with a slight infusion of *oregonus* blood.

41. *Junco oregonus*. Oregon Junco. The commonest species present during the August visit. Spreadborough reports it as a common breeder. Six specimens were taken in recognizable plumage, June 26 and July 5, 13, and 18, and two juveniles August 24 and 25. Besides these, numerous striped juveniles were secured, whose exact identity can only be conclusively established from accompanying parents. The June and July birds are typical *connectens*, while the August specimens in first winter plumage show a strong tendency towards *oregonus* in the richer redness of the back. The fact that the heads and throats of these birds are grayish instead of black, somewhat similar to *hyemalis*, I attribute to age rather than racial affinity. It thus seems that we have three forms of *Junco* at Hazelton, nearly pure *hyemalis*, *connectens* and *connectens* tending toward *oregonus*.

42. *Melospiza melodia*. Song Sparrow. Reported by Spreadborough to be not common, and only half a dozen specimens noted during his stay. In August a few were seen daily, but most were juveniles or in worn plumage. Seven specimens taken. These all appear to me to be *rufina*.

43. *Melospiza lincolni*. Lincoln Sparrow. Two seen at Hazelton by Spreadborough, June 26 and after. Three taken June 26 to July 17. Though I can perceive a slightly more olivaceous cast in fall birds from the west compared with eastern specimens, the difference in my opinion is too slight for subspecific recognition. I include them therefore under the typical form *lincolni*.

44. *Piranga ludoviciana*. Western Tanager. Common breeder at Hazelton according to Spreadborough, though the species was not observed by the writer in August. Four specimens taken June 27 to July 9.

45. *Iridoprocne bicolor*. Tree Swallow. Reported fairly common by Spreadborough at Hazelton, though not seen by the writer later. Specimen taken July 15.

46. *Tachycineta thalassina*. Violet-green Swallow. According to Spreadborough, a common breeder at Hazelton in June and July, though not seen by the writer in August at New Hazelton.

47. *Stelgidopteryx serripennis*. Rough-winged Swallow. Reported by Spreadborough to have been fairly common on the river in June and July, but not observed by the writer in August. One specimen taken July 4.

48. *Vireosylva olivacea*. Red-eyed Vireo. Several seen by Spreadborough at Hazelton in June and July. Not noted at New Hazelton in August.

49. *Vireosylva gilva*. Warbling Vireo. Fairly common at both Hazelton and New Hazelton. Nine specimens taken. I cannot see that these birds are any darker than eastern ones. If anything, they are slightly lighter and brighter in color. They certainly do not show any differences in measurements. The bills are slightly smaller and lighter, but in so illusive a degree as to make this feature of little value in separating them from *gilva*.

50. *Vermivora celata*. Orange-crowned Warbler. One Orange-crown taken August 28. It is too juvenile a bird to make subspecific pronouncement upon.

51. *Dendroica aestiva*. Yellow Warbler. Several seen by Spreadborough in June and July. But one noted in August. Three specimens taken, June 24 and 30, and August 28. These specimens seem to exhibit the racial characters of *rubiginosa* better than do most of our British Columbia birds, and therefore may be referred to that race.

52. *Dendroica coronata*. Myrtle Warbler. One specimen, a juvenile female, taken August 28, may be of this species. By tail spotting it might be either *coronata* or *auduboni*, and I cannot decide whether a faint tint on the throat is stain or a suggestion of the yellow throat patch.

53. *Dendroica auduboni*. Audubon Warbler. Common in June and July, and two seen in August. Five specimens taken, June 24 to July 18, and August 28.

54. *Dendroica magnolia*. Magnolia Warbler. Not uncommon. Spreadborough reports seeing five pairs that, from their actions, were probably breeding. Two were taken in August. Five specimens in all were taken.

55. *Dendroica striata*. Black-poll Warbler. One juvenile female taken August 25.

56. *Dendroica townsendi*. Townsend Warbler. Two seen August 25.

57. *Seiurus noveboracensis*. Northern Water-Thrush. On June 28 Spreadborough took two, and thereafter noted a number, always in low wet woods. These specimens exhibit the rather faint characters of *notabilis* in their highest degree.

58. *Oporornis tolmiei*. Macgillivray Warbler. Common in low bushes on burnt ground in June and July, and seen again August 20 and 24. Four specimens taken.

59. *Geothlypis trichas*. Maryland Yellowthroat. One seen and collected August 25. This is a juvenile bird that cannot be confidently referred to a subspecies.

60. *Wilsonia pusilla*. Wilson Warbler. One seen August 25. As it is only a sight record no subspecific designation can be given. *Pileolata* is the geographic probability.

61. *Setophaga ruticilla*. Redstart. Common. Six specimens taken, June 24 to July 10, and August 26 to 29.

62. *Certhia familiaris*. Brown Creeper. Two collected by Spreadborough, July 7 and 17. As these are juveniles they are referred to *zelotes* by geographic probability.

63. *Sitta canadensis*. Red-breasted Nuthatch. Several seen by both Spreadborough and the writer. Specimen taken June 24.

64. *Penthestes atricapillus*. Black-capped Chickadee. One of the commonest birds. Five specimens taken, June 15 to 25, and August 26 to 28. All are *septentrionalis*.

65. *Regulus calendula*. Ruby-crowned Kinglet. A small flock seen August 25. The brush was very dense and birds shot could not be found, hence no specimens.

66. *Hylocichla ustulata*. Olive-backed Thrush. Reported by Spreadborough as common and breeding. In August thrushes were so shy and retiring that their specific identity was difficult to determine unless the birds were collected. Two specimens taken July 6, and three August 25 and 26. Though these birds are very slightly more olive than eastern specimens, I do not care to separate them from *swainsoni*.

66. *Hylocichla guttata*. Hermit Thrush. Thrushes were often heard and glimpsed in August, but seldom seen plainly enough for identification. Three specimens were taken August 26. All are juveniles, and but one sufficiently advanced to base subspecific identity upon. I cannot separate it from *pallasi*.

67. *Planesticus migratorius*. American Robin. Abundant in June and July, and a few seen daily in August. Four specimens taken. I do not see in them sufficient grounds for separation from eastern *migratorius*.

68. *Ixoreus naevius*. Varied Thrush. One seen by Spreadborough July 20.

69. *Sialia currucoides*. Mountain Bluebird. Reported by Spreadborough as being common in burnt timber in July. It was not seen by the writer personally in Aug-

ust, though reports were received, leaving little doubt as to its presence in the vicinity. Five specimens taken, July 5 and 6.

*Geological Survey, Ottawa, Canada, April 5, 1918.*

## FROM FIELD AND STUDY

**An Early or Late Nesting of Green-backed Goldfinch?**—On November 4, 1918, a neighbor called me over to inspect the nest of a Green-backed Goldfinch (*Astragalinus psaltria hesperophilus*) that he had found in his yard. The nest was in an apricot tree about eight feet up, and from which all the leaves had fallen. It contained two partially feathered young. The fact that autumn had bared the trees of their foliage made it look especially odd.—N. K. CARPENTER, *Escondido, California, November 14, 1918.*

**Grackles Nesting in Herons' Nests.**—On June 8, 1918, at Little Fish Lake, Moose Mountain District, Saskatchewan, on a wooded island, I found a colony of Great Blue Herons breeding. Under and in the sides of their large nests, which were about 25 feet from the ground, five or six pairs of the Bronzed Grackle (*Quiscalus quiscula aeneus*) had built their nests, these latter containing young.—H. H. MITCHELL, *Provincial Museum, Regina, Saskatchewan, October 25, 1918.*

**Notes on the Black-bellied Plover and the Golden Plover.**—It seems to me highly probable that the Golden Plover (*Charadrius dominicus dominicus*) may be more numerous along the Pacific Coast than is generally supposed, and possibly the same may be said of the Atlantic Coast also. Without wishing to cast any slurs upon ornithologists in general, it is nevertheless a fact that even the experienced bird man must be strictly on the alert in order to detect a Golden among a flock of Black-bellies (*Squatarola squatarola*). The average hunter undoubtedly consigns them all to the pot as the same thing, when, if he were only told the difference, he would be likely to hand the rare one over to a bird student.

The somewhat smaller size of the Golden Plover, with its three front toes and no hind toe, instead of the three front toes plus a well defined hind toe in the Black-belly, are evident enough when the bird is in hand. However, these recognition marks are obviously useless when the birds are flying or running along the beach. I know of but one wholly satisfactory clew to the birds in life, which is the tail and the upper tail-coverts. The Black-bellied Plover shows an exceedingly prominent amount of white on these parts, while the Golden Plover shows none at all, with the exception of a few bars on the tail.

Another means of field identification are the jet black axillars, in all plumages, of the Black-belly in contrast with the pale feathers of the Golden. These can be seen, however, only when the birds have their wings raised and are broadside to the observer; but any bird that shows black on the under side of its wings is not a Golden Plover.

For the benefit of those who do not know, it may be of interest to say that both of these birds are without much doubt to be found along the Pacific Coast, to at least as far north as the state of Washington, at any time between August 15 and May 15. The Black-bellied Plover is a winter resident, beyond question, and the same would probably hold good with the Golden Plover (see CONDOR, XVIII, 1916, 31). Records of the Golden Plover along the Pacific Coast are so few that the estimate given above as to their probable time of occurrence must be taken as purely theoretical. However, my twenty-five years acquaintance with our North American shorebirds makes me fairly certain that the estimate is not greatly at variance with the actual facts, if these could be ascertained.

We have all undoubtedly posted our sportsmen friends to be on the lookout for a "Widgeon with a red head", which he must turn over to us without a feather missing. Having thus put a lookout for a male European Widgeon, let us also impress upon these same long-suffering friends the necessity of saving for us any Black-bellied Plover, also called "Beetle-head", that shows no white on its lower back and no black under the wing. It may not benefit you often, but it does sometimes.—J. HOOPER BOWLES, *Tacoma, Washington, October 15, 1918.*